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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/690,271	10/17/2000	Se-Lee Chang	12495-002001	3672

7590 10/18/2002
Y. Rocky Tsao
Fish & Richardson P.C.
225 Franklin Street
Boston, MA 02110-2804

EXAMINER

BERMAN, SUSAN W

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 10/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

TC-7

Office Action Summary

Application No.

09/690,271

Applicant(s)

CHANG ET AL.

Examiner

Susan W Berman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Response to Amendment

The trademarks on pages 9-11 have been fully capitalized and are accompanied by the generic terminology.

The objection to the disclosure with respect to the names of polyols containing polydimethylsiloxane set forth in paper number 3 is withdrawn in response to the amendment of page 5, lines 6-11.

The Declaration under 37 C.F.R. 1.131 of Se-Lee Chang submitted 07-09-2002 has been considered. The Declaration provides evidence showing reduction to practice of the instantly claimed invention before the earlier filing dates of US 5,986,018 and US 6,023,547. Therefore, the rejections of claims of record over US 5,986,018 and US 6,023,547 are hereby withdrawn.

Response to Arguments

Applicant's arguments filed 07-08-2002 have been fully considered but they are not persuasive.

Applicant indicates intent to delete the "Cross Reference of Related Application" section on page 1 of the Specification. However, this amendment has not been requested.

Specification

The incorporation of essential material in the specification by reference to a foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. See *In re Hawkins*, 486 F.2d 569, 179 USPQ 157 (CCPA 1973); *In re Hawkins*, 486 F.2d 579, 179 USPQ 163 (CCPA 1973); and *In re Hawkins*, 486 F.2d 577, 179 USPQ 167 (CCPA 1973). The section entitled cross reference to

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related applications on page 1 should be deleted. This section should refer only to applications filed in the United States.

The disclosure is objected to because of the following informalities:

The components of the composition set forth are not a photopolymerizable acrylate composition but are the components employed to obtain the photopolymerizable urethane acrylate oligomer containing polydimethylsiloxane that is a component of the photopolymerizable resin composition. See page 4 of the specification.

It is suggested that the “polyol copolymer” component (b) be defined as a “polyol” instead of “polyol copolymer” because the polyols disclosed on page 5 do not appear to be copolymers. The polyols disclosed, such as polyether polyol or polyester polyol, could be oligomeric or polymeric. The polyols disclosed, such as ethylene glycol or propylene glycol, would not provide copolymers unless used in mixtures. When the polyols are used in mixtures a copolymer would be obtained, but a copolymer was not employed in the composition for making the urethane acrylate.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 16 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 16 recites that the resin is

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prepared “without the talc process...characteristics”; however, the “talc process” is not described in the specification. See page 12.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 4, 5, 6, 8, 9 and 12-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1: the claim language does not clearly set forth that the polydimethylsiloxane is incorporated into the urethane acrylate oligomer by chemical bonding as distinguished from being added to the urethane acrylate to provide a mixture.

Claim 4: The use of the tradename “His 2111” in the claim renders the claim indefinite because the tradenamed material is subject to change in composition. “His 2111” should be deleted and replaced with a “hydroxy-terminated polydimethylsiloxane”.

Claim 5: it is not clear whether applicant intends to set forth the weight percent polyol containing polydimethylsiloxane in the urethane acrylate oligomer or in the composition comprising the urethane acrylate oligomer.

Claim 6: the use of the word “type” in line 7 renders the claim indefinite because it is not clear whether applicant intends to claim bisphenol F diol or to claim some other moiety like bisphenol F diol.

Claim 8: There is a space between two words in line 7. It is not clear whether there is a chemical name missing or whether the space was unintended.

Claims 9 and 10: it is not clear whether applicant intends to set forth the weight percent catalyst or inhibitor in the composition comprising the urethane acrylate oligomer or in the composition employed to obtain the urethane acrylate oligomer.

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Claims 12-14 are rendered indefinite by the use of tradenames in the claims. The tradenames should be replaced with the chemical names, the chemical structures or the methods of preparation of the materials intended. The tradenames should be deleted from the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 11-19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Duecker (6,122,428, having an effective filing date of 06-27-1989) in view of Shustack (5,908,873).

Duecker discloses radiation curable compositions for securing optical fibers in a matrix of an optical fiber cable. The compositions comprise a polyether-based urethane acrylate that, in a preferred embodiment, is silicone-modified (column 4, lines 17-51). The compositions also contain a monomer, a photoinitiator and a stabilizer (see columns 4-5, column 6, lines 8-47 and column 7, line 20-44). With respect to claims 7 and 8, Duecker does not specifically mention the polyisocyanate or hydroxy-functional acrylate employed to provide the silicone-modified polyether urethane acrylate. However, EBECRYL 4842, equivalent to CHEMPOL19-4842, are disclosed as examples. Duecker teaches that optional ingredients may be added, but does not specifically mention a leveling/defoaming agent.

Shustack discloses analogous compositions for radiation curable matrix materials for affixing fibers in a ribbon configuration. The compositions comprise an aliphatic urethane acrylate oligomer, such as silicone-modified EBECRYL 4842, a reactive monomer, a release agent, a photoinitiator and an antioxidant. The release agent taught by Shustack and used in the examples corresponds to the

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leveling/defoaming agents disclosed by Applicant (column 10, lines 37-46 and the Examples). Shustack teaches compositions for preparation of the urethane acrylate oligomer comprising polyols, polyisocyanate, hydroxyalkyl(meth)acrylate and a urethane catalyst, (column 6, line 63, to column 8, line 54). It would have been obvious to one skilled in the art to employ a release agent as disclosed by Shustack as an additive in the compositions disclosed by Duecker in order to obtain the benefits of the properties thereof.

Claims 1-19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Duecker (6,122,428, having an effective filing date of 06-27-1989) in view of Shustack (5,908,873), as applied to claims 1-6, 8, 9, 11, 12 above, and further in view of Ohtaka et al (5,787,218). Duecker does not mention the urethane catalyst or polymerization inhibitor employed in the preparation of the silicone-modified urethane acrylate. Shustack teaches urethane catalysts for preparation of analogous urethane acrylate oligomers, but does not mention adding a polymerization inhibitor.

Ohtaka et al teach that it is known in the art to employ a urethane catalyst and a polymerization inhibitor to prepare urethane acrylate oligomers. The urethane acrylate oligomers disclosed include polydimethylsiloxane-modified urethane acrylates. The disclosed urethane acrylates are prepared by reaction of polyol(s), diisocyanate and hydroxy-functional acrylate in the presence of a urethanization catalyst, such as dibutyltindilaurate, and a polymerization inhibitor, such as a methylphenol compound and phenothiazine. See column 5, lines 24-30, and Examples 1-3.

With respect to claims 2-10, Ohtaka et al teach using a polymerization inhibitor and a urethane catalyst in a method for preparation for a urethane acrylate oligomer analogous to the urethane acrylate oligomers taught by Duecker and Shustack. It would have been obvious to one skilled in the art at the time of the invention to employ a polymerization inhibitor such as phenothiazine, to prepare a urethane acrylate oligomer to use in the compositions disclosed by Duecker and Shustack, as taught by Ohtaka et

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al. The reason is that use of known polymerization inhibitors to prepare a urethane acrylate is well known in the art, as shown by the disclosure of Ohtaka et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Berman whose telephone number is (703) 308-0040.

The fax number for this group is (703) 872-9310 or, after Final Rejection, 703-872-9311.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.



Susan Berman
Primary Examiner
Art Unit 1711

SB
10/16/02